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# JAPANESE BEETLE

MAY 3 - 1963

(*Popillia japonica* Newman)

CURRENT JOURNAL RECORD



(See other side for life history and control)



Japanese beetles spend about 10 months of the year as grubs in the soil, feeding on the roots of grasses and other plants. Early in June the grubs stop feeding and go through a resting, or pupal, stage, before they become beetles. By the first part of July the beetles are flying about in numbers and feeding extensively on the foliage, fruit, and blossoms of many trees and other plants. In July and August the females go into the ground and lay eggs, which hatch into small grubs. Grubs are usually most abundant in turf.

**Control of Beetles.**—Protect plants by using one of the following sprays:

For fruit and shade trees, shrubs, and flowering plants, use *either* **DDT** or **sevin** (50-percent wettable powder), 3 ounces (20 tablespoonfuls) or **methoxychlor** (50-percent wettable powder), 5 ounces (34 tablespoonfuls) in 10 gallons of water; for berries, peaches, and most other crops use **malathion** (25-percent wettable powder), 3 ounces (20 tablespoonfuls) in 10 gallons of water.

Waiting periods to be observed when these materials are applied to fruit and vegetable crops vary. Generally, DDT should be applied 7 to 42 days before harvest, methoxychlor 3 to 21 days, malathion or sevin 1 to 7 days. Forage crops may ordinarily be treated with methoxychlor and malathion subject to the limitations noted above. Follow the directions on container labels.

If spraying equipment is not available, apply 5-percent DDT dust, 5-percent sevin dust, or 5-percent methoxychlor dust.

Apply the spray or dust when the beetles first appear. Repeat applications as needed to maintain a protective coating on all parts of the plants that are subject to attack. Dust waiting periods are same as for spray.

**Chemical Control of Grubs.**—One application of one of the following insecticide formulations will give quick and almost complete control of the grubs and protect grass in lawns, golf courses, and parks from injury by grubs for 5 or more years, in areas so treated.

<i>Insecticide</i>	<i>Amounts for 1,000 square feet</i>		
	<i>Amounts</i>	<i>50-percent</i>	<i>10-percent</i>
	<i>per acre</i> <i>Pounds</i>	<i>wettable powder</i> <i>Ounces</i>	<i>dust or granules</i> <i>Pounds</i>
Dieldrin	3	2½	¾
Aldrin	3	2½	¾
Heptachlor	3	2½	¾
Chlordane	10	8	2½

The insecticide may be applied at any time when the ground is not frozen. A dust or granular formulation is best applied by a fertilizer spreader. For hand application in small areas, the formulation may be mixed with several times its volume of sand, soil, or fertilizer as an aid in distributing it evenly. Granulated formulations usually can be spread more uniformly than the dusts by means of a fertilizer spreader, seed-caster, or by hand.

The wettable powder mixed with water and applied at the rate of 25 gallons per 1,000 square feet, or 1,000 gallons per acre, may be substituted for the dry application. The turf should be watered after the insecticide is applied.

**Biological Control of Grubs.**—Japanese beetle grubs are subject to a number of diseases, the most important of which is the milky disease. Several dust mixtures containing spores of the organism causing this disease are available commercially. They are preferably applied by community groups, but may be used by individuals. Directions are on the package. The disease usually works slowly, and its full effect may not be evident for several years.

**PRECAUTIONS:** Insecticides are poisonous. Use them only when needed and handle them with care. Follow the directions and heed all precautions on the container label. Insecticides should be kept in closed, well-labeled containers, in a dry place where they will not contaminate food or feed, and where children and pets cannot reach them.